

REMARKS

Claims 1-71 are pending in the present patent application. Claims 1-45 and 56-71 were withdrawn from consideration. Claims 46-51, 53 and 54 were rejected. Claims 52 and 55 were objected to. Claims 47 and 50 have been amended. This application continues to include claims 1-71.

Applicants thank the Examiner for the indication that claims 52 and 55 contain allowable subject matter.

Claim 47 was amended to correct a minor typographical error.

Claims 46, 47, 48, 49, 51, 53, and 54 were rejected under 35 U.S.C. §102(b) as being anticipated by Matsumoto (U.S. Patent No. 4,604,632). Applicants respectfully request reconsideration of the rejection of claims 46, 47, 48, 49, 51, 53, and 54 in view of the following.

Claim 46 is directed to an apparatus for perforating a sheet of print media having a front side and a back side. Claim 46 recites, “a printhead carriage for carrying a printhead; a perforator carriage for carrying a perforation forming mechanism; and an isolation damper coupling said printhead carriage to said perforator carriage.” In rejecting claim 46, the Examiner relies on pin 27 of Matsumoto as corresponding to the recited isolation damper.

As a first point, in Matsumoto there is only one carriage, identified as head mount 1 slidably attached to parallel guide shafts 2 and 3. (Column 2, lines 18-20; Fig. 1A). A recording head 26 having a plurality of recording elements 26A is rotatably mounted on the head mount 1 around a pin 27. (Column 2, lines 62-42; Fig. 1B). A perforating lever 30 is pivotably supported around pin 27, and has a perforating wheel 31 rotatably attached to a shaft 32 at an end of an upper arm 30A of the perforating lever 30. (Column 3, lines 7-10; Fig. 1B).

As a second point, notwithstanding Matsumoto does not disclose two carriages, it is clear from the passages of Matsumoto set forth above and as shown in Matsumoto Fig. 1B that pin 27 is not positioned to couple the recording head 26 to the perforating lever 30, but rather pin 27 serves as a common pivot member to mount each of recording head 26 and perforating lever 30 individually to the carriage (head mount 1).

As a third point, nothing in Matsumoto discloses, teaches or suggests that pin 27 is an isolation damper. The Patent and Trademark Office (“PTO”) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *Phillips v. AWH Corp.*, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827 (Fed. Cir. 2004) (Emphasis added). One looks to the specification “to ascertain the meaning of a claim term as it is used by the inventor in the context of the entirety of his invention.” *Comark Communications v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998).

As stated in Applicants’ specification at page 12, lines 25-28 and line 33-page 14, line 3, “Perforator carriage 134 is connected to carrier transport belt 42, and is coupled to carriage 32 by isolation members 136. Isolation members 136 may be made, for example, of rubber or other material having elastic, vibration absorbing, characteristics. [] isolation members 136 serve as isolation dampers so that operation of the perforator mechanism in perforator carriage 134 will not transmit mechanical vibrations directly to carriage 32, and in turn to printheads 38a, 38b.” (Emphasis added).

Thus, in the context of the entirety of Applicants’ invention, the recited isolation damper is a device having vibration absorbing characteristics such that the perforator carriage will not

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transmit mechanical vibrations directly to the printhead carriage. However, nothing in Matsumoto would indicate that pin 27 is anything more than a common pivot member to mount each of recording head 26 and perforating lever 30 to the carriage (head mount 1).

Accordingly, in view of the above, Matsumoto does not disclose, teach or suggest “an isolation damper coupling said printhead carriage to said perforator carriage”, as recited in claim 46. (Emphasis added).

Each of claims 47, 48, 49, 51, 53, and 54 depend, directly or indirectly, from claim 46, and are believed allowable in view of their respective dependence from otherwise allowable base claim 46. In addition, claims 47, 48, 49, 51, 53, and 54 further and patentably define the invention over Matsumoto.

For example, claim 54 recites, “The apparatus of claim 46, further comprising: a first roller positioned upstream of said perforation forming mechanism; and a second roller positioned downstream of said perforation forming mechanism, said sheet of print media being suspended between said first roller and said second roller during perforation.” In contrast, as shown in Matsumoto Fig. 4, rollers 15A, 15B and platen 23 are arranged such that the paper 8 is held tightly against platen 23 during perforation, and thus, “said sheet of print media” is not “suspended between said first roller and said second roller during perforation”, as recited in claim 54. (Emphasis added).

Accordingly, claim 54 is believed allowable in its own right.

Therefore, in view of the above, it is respectfully requested that the Examiner withdraw the rejection of claims 46, 47, 48, 49, 51, 53, and 54 as being anticipated by Matsumoto under 35 U.S.C. 102(b).

Claims 46, 47, and 49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Petersen, et al. (U.S. Patent No. 5,363,123) in view of Schmitt (U.S. Patent No. 4,564,470). Applicants respectfully request reconsideration of the rejection of claims 46, 47, and 49 in view of the following.

As set forth above, claim 46 is directed to an apparatus for perforating a sheet of print media having a front side and a back side. Claim 46 recites, “a printhead carriage for carrying a printhead; a perforator carriage for carrying a perforation forming mechanism; and an isolation damper coupling said printhead carriage to said perforator carriage.

The Examiner asserts that Petersen, et al. discloses everything in claim 46 except for the perforation forming mechanism, for which the Examiner relies on Schmitt. In particular, for example, the Examiner asserts that Petersen, et al. discloses the recited “isolation damper coupling said printhead carriage to said perforator carriage”, relying on Petersen, et al. Figs. 2-4 and column 3, lines 25-35 with respect to elements 70, 80.

As set forth above, in the context of Applicants' invention, the recited isolation damper is a device having vibration absorbing characteristics such that the perforator carriage will not transmit mechanical vibrations directly to the printhead carriage. However, Petersen, et al. discloses at column 3, lines 30-42, “The pickup arm 80 is made of a thin sheet metal having sufficient flexibility or is mounted on the posts 70 with sufficient compliance in the vertical direction to permit at least its remote end 82 to be vertically moved upon engagement with the pickup hook ramps 26, 27 previously described. The pickup arm 80 has an inclined ramp 84 which has upper and lower camming surfaces 85, 86 thereon (FIG. 5) and first and second edges 87, 88 (FIG. 10) respectively engageable with vertically extending pusher surfaces 89, 90 on the

printer carriage and pickup hook. Pickup arm 80 also has a support flange 92 for resting on platform 29 on the pickup hook.”

As further set forth in Petersen, et al. at column 3, lines 48-65 and Figs. 4-19, however, it becomes apparent that the reason for the flexibility and compliance with respect to elements 70, 80 is that of providing a spring action, and not isolation damping, i.e., vibration damping. Further, the fact that Petersen, et al. uses “thin sheet metal” for pickup arm 80 show the lack of concern for vibration, since it is known in the art that thin sheet metal would tend to transmit, not dampen, vibration.

Accordingly, it is respectfully submitted that Petersen, et al. does not disclose, teach or suggest the “isolation damper coupling said printhead carriage to said perforator carriage”, as recited in claim 46. Further, Schmitt also does not disclose, teach or suggest the “isolation damper coupling said printhead carriage to said perforator carriage”, nor does the Examiner assert as much. Therefore, even if Petersen, et al. and Schmitt were combined, the combination would not yield Applicants’ invention as recited in claim 46.

Each of claims 47 and 49 depend directly from claim 46, and are believed allowable in view of their respective dependence from otherwise allowable base claim 46. In addition, claims 47 and 49 further and patentably define the invention over Petersen, et al. in view of Schmitt.

Therefore, it is respectfully requested that the Examiner withdraw the rejection of claims 46, 47, and 49 as being unpatentable under 35 U.S.C. 103(a) over Petersen, et al. in view of Schmitt.

Claim 50 was rejected under 35 U.S.C. §103(a) as being unpatentable over Petersen, et al. in view of Schmitt as applied to claim 46, and further in view of Engel, et al. (U.S. Patent

No. 5,019,028). Applicants respectfully request reconsideration of the rejection of claim 50 in view of the following.

Claim 50 depends indirectly from claim 46, and is believed allowable in view of its dependence from otherwise allowable base claim 46, since Engel, et al. does not fill the deficiencies of Petersen, et al. and Schmitt with respect to claim 46.

Further, claim 50 is believed patentable in its own right.

Claim 50, as amended, recites, “The apparatus of claim 49, further comprising a perforation maintenance station including an abrasive member for sharpening said perforation device at a location outside of a perforation zone of said perforation device.” (Emphasis added). Support for the amendment to claim 50 may be found, for example, at Applicants’ Fig. 1 and spec. at page 7, lines 1-7.

The Examiner relies on Engel, et al. column 10, lines 15-28 for teaching a perforation maintenance station including an abrasive member for sharpening said perforation device. In contrast to claim 50 as amended, however, the sharpening mechanism of Engel, et al. is located such that the sharpening occurs in the course of the perforation operation (Engel, et al. column 10, lines 20-22), and thus sharpening is necessarily performed in the perforation zone of the Engel apparatus. Accordingly, claim 50 is believed patentable in its own right.


Therefore, it is respectfully requested that the Examiner withdraw the rejection of claim 50 as being unpatentable under 35 U.S.C. 103(a) over Petersen, et al. in view of Schmitt and further in view of Engel, et al.

Applicants believe the present application is in condition for allowance in its present form, and it is respectfully requested that the Examiner so find and issue a Notice of Allowance in due course.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,



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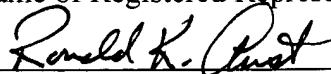
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Date